

REMARKS

The Office action of July 19, 2006, has been carefully considered.

Objection has been raised to the disclosure, and the specification has been amended in the manner suggested in the Office action..

Objection has been raised to the abstract, and a new abstract has been added to the application.

The allowability of Claims 6 through 8 has been noted.

Claims 1 through 3 and 9 through 11 have been rejected under 35 USC 102(b) as anticipated by Alby, and Claims 4 and 5 have been rejected under 35 USC 103(a) as obvious over Alby.

Claim 1 has now been amended to better recite the elements of the invention, specifying an upper rotatable fixing element disk and a lower rotatable fixing element disk with each of these fixing elements comprising an eccentrically disposed hole through which the bone screw passes. Each of the disks is both longitudinally displaceable and rotatable within the plate or rod, with the bone screw being movable axially above the bone screw shaft.

The structure of the apparatus of the invention is shown in detail in the attached drawing labeled BCM Seriflex System.

The system of Alby is shown in detail in the attached diagram labeled Citation. Alby comprises hemispherical nuts or washers which are pressed by counter nuts against the respective longitudinal plate in a slot in which they are placed. The hemispherical nuts have an eccentric hole, but this hole is a non-axial inclined hole made through the body and therefore, rotation of the hemispherical nuts does not result in a change of the position of the bone screw, but results instead in a *tilting of the longitudinal plate as*

shown in Figure 7 of Alby. This function is discussed several times in the Alby reference, for example at page 2, lines 1 to 3 and lines 12 to 13. Accordingly, a lateral positioning adjustment by choice of an appropriate angular position of the plate is made by rotating the hemispherical nuts, and the upper washer serves to laterally regulate the position of the plate and the lower washer serves to adjust tilting of the plate. The bone screws are fixed by screw 10 without being able to move axially above the shaft of the bone screws which would enable a direct transfer force to the plate for the positioning or tilting thereof.

In the drawings submitted herewith, it is clear that when the nut of the Alby structure is fastened, the positions of the nut and the screw are fixed at the same angle and orientation. This is only possible due to the formed rounding worked into the plate and sliding is possible along only one axis.

The structure according to the invention enables a vertical fixing of the bone screws to the plate arrangement which also allows inclined positioning of the bone screw and compensation thereby. In order to achieve this, it is necessary that the disks 6 and 8 are fixed in the plate 2 and longitudinally slidable therein. By sliding the disks in the plate, a rough positioning of the screw arrangement can be made initially. A fine positioning can be subsequently achieved utilizing the eccentrically arranged holes 10 in the plates in combination with the rotatability of the plates 6 and 8. In this manner, the holes can be fixed such that the bone screw, which can be axially moved, is always fixed vertically in the plate arrangement, and the vertebrae bones can be stabilized in an essentially stress and force-free manner. The plate arrangement of the vertebrae does not need

to shifted or tilted.

From the diagram of the claimed system which has been submitted, it is clear that the two longitudinally slidable and rotatable plates and the eccentrically positioned receiving holes of these plates for the screw heads are part of the plate and this allows the screw to be fixed in a plane. By fastening the nut, the separate spherical head is clamped, and thereby defines the angle of the screw position with respect to the plate.

The Alby system does not disclose or suggest this arrangement. Another type of screw is used and it is an object of Alby to exert rotational or pivotal forces by the bone screw onto the plate in which the bone screw is supported. Thus, Alby teaches the contrary of the invention, with the bone screw under tension. The hemispherical shell/washer does not serve the purpose of compensating the inclination of the bone screw and therefore it is not positioned in the plate. Instead, the hemispherical washers are clamped to the upper and lower faces by screwing. Apparently, two parts must be screwed, above and below the plate, and a permanent positional fixing of the hemispherical washers is only possible by screwing; they cannot be fastened temporarily. This renders the orientation of the system very difficult because the parts are either completely free or are fixedly screwed.

To the contrary, the invention provides a system which allows a rough and fine adjustment, and for the fine adjustment, it is only necessary to rotate the disks 6 and 8. Afterwards, only the nut 24 at the screw head must be fastened. This is not suggested by the Alby reference.

Withdrawal of these rejections is accordingly requested.

In view of the foregoing amendments and remarks,

Applicants submits that the present application is now in condition for allowance. An early allowance of the application with amended claims is earnestly solicited.

Respectfully submitted,

  
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